



U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

**PRELIMINARY AMENDMENT  
TRANSMITTAL LETTER**

Docket Number  
85940/15

Application Number  
08/928,893

Filing Date  
September 12, 1997

Examiner  
D. Naff

Art Unit  
1808

Invention Title  
**PROCESS FOR THE SIMULTANEOUS  
PRODUCTION OF XYLITOL AND ETHANOL**

Inventor(s)  
Heikkila et al.

Address to:  
Assistant Commissioner for Patents  
Washington D.C. 20231

I hereby certify that this correspondence is being deposited with the  
United States Postal Service as first class mail in an envelope addressed  
to: Assistant Commissioner for Patents, Washington, DC 20231

Dated: May 16, 2001 Reg. No. 37,967

Signature: *Christine M. Wilkes*  
Christine M. Wilkes

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TECH CENTER 1600/2900

Transmitted herewith is a Preliminary Amendment in the above-identified application.

1. The fee for additional claims has been calculated as shown below:

	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT NUMBER EXTRA	RATE (\$)	FEE (\$)
TOTAL CLAIMS	27	minus	20	7	18.00	126.00
INDEPENDENT CLAIMS	2	minus	3	0	78.00	0.00
MULTIPLE DEPENDENT CLAIM ADDED					260.00	0.00
				TOTAL		\$ 126.00

2. Accordingly, the Commissioner is hereby authorized to charge the additional claim fee of \$ 126 to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**.
3. The Commissioner is further authorized to charge payment of the following fees associated with this communication or credit any overpayment to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**:

- A. Any additional filing fees required under 37 C.F.R. § 1.16; and
- B. Any additional patent application processing fees under 37 C.F.R. § 1.17.

4. A duplicate copy of this letter is enclosed.

Dated: May 16, 2001

By: Christine M. Wilkes  
Christine M. Wilkes (Reg. No. 37,967)

KENYON & KENYON  
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New York, N.Y. 10004  
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grain straw and grain hulls as wheat, corn, oat and barley, corn cobs, corn stems, nutshells, bagasse, cottonseed bran, wood chips, sawdust, woodpulp, spent sulphite liquor, spent liquor from paper processing, spent liquor from woodpulp processing, sulphite cooking liquor, and liquids derived from any of the preceding, comprising:

8 processing said lignocellulose-containing material to produce a xylose-rich  
9 solution comprising free xylose and hexose;

10 fermenting said xylose-rich solution to produce a fermented solution with a yeast selected from the group consisting of a yeast of the genera *Candida*, *Pichia*, *Pachysolen*, and *Debaryomyces*, said fermenting comprising reducing said free xylose to xylitol and reducing said hexose to ethanol, and said fermented solution comprising xylitol, ethanol, and spent yeast;

separating a substantial portion of said spent yeast from said fermented solution to produce a substantially clarified solution comprising ethanol and xylitol, said clarified solution comprising substantially less spent yeast by weight on a dry solids (substance) basis than said spent yeast in said fermented solution, and said separating comprising at least one separating method selected from group consisting of clarification by e.g. filtration, centrifugation and decanting;

21 distilling said clarified solution to produce distilled ethanol and xylitol  
22 distillate, said distilled ethanol comprising a greater concentration of ethanol by weight on a liquid basis than said ethanol in said clarified solution, and said xylitol distillate comprising a greater concentration of xylitol by weight on a dry solids basis than said clarified solution;

fractionating said xylitol distillate by chromatographic separation to produce a xylitol fraction and a residue fraction, said xylitol fraction comprising a greater concentration of xylitol by weight on a dry solids basis than said xylitol in said xylitol distillate; and crystallizing said xylitol fraction to produce xylitol crystals.